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## STATE OF DELAWARE

## WATER AND AIR RESOURCES COMMISSION

DOVER, DELAWARE 19901

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VICE CHAIRMAN  
JOHN C. BRYSON  
EXECUTIVE DIRECTOR

PHONE 302-734-5711  
EXT. 470-471

June 19, 1968

*Same as proposed  
guidelines that we  
got from Chalken Rmt*

Dr. E. L. Rodowskas

Plant Manager

Textile Fibers Department

E. I. duPont de Nemours & Company  
Newport, Delaware 19898

Dear Dr. Rodowskas:

As you may be aware, the Water and Air Resources Commission has adopted a regulation governing the control of refuse disposal and salvage operations. This regulation provides that existing dumps or sanitary landfills must have Commission approval to continue operation. All new systems must comply with the regulation and approval requirements before initiation of the operation.

By action of the Commission, the date by which approval must be obtained has been extended from July 1, 1968 to August 1, 1968.

In order to assist owners and operators of dumps or sanitary landfills to comply with the requirements of Section 4, Regulation IV, a guideline has been prepared. A copy of this guide is enclosed for your use. In addition, a copy of the Delaware State Board of Health's "Proposed Standards for the Design, Operation, and Control of Sanitary Landfills" is enclosed. The Board of Health is preparing to adopt these Standards, with no significant changes, in the form of a regulation. Until such time as the proposed regulation is adopted, the Commission shall require that the provisions stated therein are observed.

If you have any questions pertaining to this guide or the required approval, please contact this office at your earliest convenience.

Sincerely yours,

James T. Wilburn, Director

Air Pollution Control Division

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Enclosures

ORIGINAL  
(Recd)

AIR POLLUTION CONTROL DIVISION  
DELAWARE WATER AND AIR RESOURCES COMMISSION

GUIDELINE FOR THE APPROVAL OF  
DUMPS OR SANITARY LANDFILLS

SECTION I - SCOPE

The purpose of this guideline is to assist owners and operators of dumps or sanitary landfills to comply with Section 4 of Regulation IV - Control of Refuse Disposal and Salvage Operations. This Section states that to continue operation of existing dumps or sanitary landfills, approval shall be obtained from the Commission prior to July 1, 1968. The requirements of this Section apply to all solid or liquid waste disposal operations.

To obtain approval, the owner or operator of a dump or sanitary landfill shall submit to the Commission: (1) a Technical Report describing the nature and extent of the operation, and (2) a Plan of Operation presenting the actions to be taken to prevent the occurrence of odors or fires.

SECTION II - TECHNICAL REPORT REQUIREMENTS

The Technical Report submitted to the Commission shall include at least the following information:

1. Name and location of the dump or sanitary landfill operation.
2. Name, address, and telephone number of the operator, the owner of the property, and the person who prepares the Technical Report.
3. Location map showing the general area of the waste disposal operation. This map shall show the location of all businesses or residences within a one mile radius of the property line of the operation.
4. Description, including types and quantities, of the waste being disposed.
5. Description of the waste disposal operation.

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## SECTION III - PLAN OF OPERATION REQUIREMENTS

The Plan of Operation submitted to the Commission shall include a detailed report of the proposed operation, control, and maintenance of the dump or sanitary landfill. Upon receiving the Plan of Operation, the Commission shall review the presentation for incorporation of effective procedures to reduce the potential of fires and odors. Where insufficient measures are proposed, modifications shall be required.

A. Combustible or Organic Waste

When garbage, rubbish, or any other combustible or organic waste material is being disposed, the Commission shall require that either a sanitary landfill or an approved incinerator be the method of disposal. The Plan of Operation shall comply with the Rules or Regulations of the Delaware State Board of Health pertaining to the operation of Sanitary Landfills. The Plan of Operation shall be prepared by a licensed professional engineer and shall contain detailed information concerning the conduct of the operation.

B. Non-Combustible or Inorganic Waste

In the case of inorganic waste or other non-combustible waste matter, the Commission will consider a means of disposal other than a sanitary landfill if it can be demonstrated that the waste has no potential for the creation of fires and/or odors. The Plan of Operation submitted with the request for approval shall contain specific information pertaining to the disposal operation and the actions to be taken to ensure that the waste contains no combustible or organic matter. The Plan of Operation also shall specify the means of preventing indiscriminant dumping from occurring at the site.

C. Hazardous Waste

In the case of the disposal of hazardous or toxic solid or liquid wastes, the Plan of Operation shall include a detailed description of the waste and shall contain information specifying the actions to be taken to eliminate the potential of fires and/or odors. The Commission will not approve the disposal of such wastes by either open dumps or sanitary landfills until satisfactory measures are proposed which sufficiently protect the general public.

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#### SECTION IV - PROCEDURE FOR OBTAINING APPROVAL

Upon request, the Commission will provide assistance in the preparation of the required Technical Report and Plan of Operation. However, it shall be the responsibility of the dump or sanitary landfill owner or operator to ensure that the Technical Report and Plan of Operation are prepared and submitted as required. The Commission requires approximately 45 days to process an application and issue a Certificate of Approval.

When the Commission is satisfied that reasonable and proper steps will be taken in the conduct of the waste disposal operation, a Certificate of Approval will be issued. The Certificate may include additional operational procedures prescribed by the Commission. When the Commission requires that the means of waste disposal be that of an approved method of incineration, a suitable period of time will be allowed for its procurement and installation.

Compliance with the Regulations of the Air Pollution Control Division does not relieve the applicant of the responsibility of complying with the applicable requirements of the Water Pollution Control Division, and of the Delaware State Board of Health.

Any person who conducts a waste disposal operation contrary to the provisions of the Certificate of Approval will have the Certificate voided and shall be subject to the punitive measures of Section 6013 of the Water and Air Resources Act of 1966.

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Delaware State Board of Health Proposed Standards for the  
Design, Operation, and Control of Sanitary Landfills

A. Sanitary landfills shall be planned, operated, and maintained by properly qualified personnel. The location or site of a sanitary landfill must have the written approval of the State Board of Health in conformance with 1702, Title 16, Delaware Code.

B. Design

1. Plans and Specifications. All sanitary landfills shall be designed in accordance with these standards, by a registered professional engineer. Detailed plans, specifications, and necessary reports shall be submitted by the engineer to the State Board of Health for review and approval.
2. The design of the sanitary landfill shall include one or more topographical maps at a suitable scale. These maps shall show: The proposed fill area; any borrow area; access roads; grades for proper drainage for each lift required and a typical cross-section of a lift; special drainage devices if necessary; and all other pertinent information to clearly indicate the orderly development, operation, and completion of the sanitary landfill.
3. The geological characteristics of the proposed site shall be determined by an on-site test or from reliable survey data.
4. Characteristics of cover material. The soil used as cover material shall be of such character that it can be compacted to provide a tight seal, does not crack excessively when dry, and is relatively free of putrescible materials or large objects. Soil surveys, published by the Soil Conservation Services of the U. S. Department of Agriculture, are particularly helpful in locating sanitary landfill sites with the most suitable soil conditions.
5. Water Pollution. Sanitary landfill operations shall be limited to areas where water pollution is not likely to occur.
6. Equipment. Adequate numbers, types, and sizes of equipment shall be specified for operating a landfill in accordance with good engineering practice and with these standards.

C. Site Preparation.

1. Access. Access roads shall be designed and constructed so the traffic will flow smoothly and will not be interrupted with ordinary inclement weather. Access to the site by unauthorized persons shall be limited by suitable fencing.
2. Employee facilities. Suitable shelter and other sanitary facilities shall be provided for personnel.

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3. Communications. Telephone or radio communications are desirable at the site of a sanitary landfill.

ORIGINAL  
(Red)

4. Fire Protection. Suitable measures shall be taken to control fires.

D. Operations.

1. Limited access. Access to a sanitary landfill shall be limited to those times when an attendant is on duty and only to those authorized to use the site for the disposal of refuse.
2. Unloading of refuse. Unloading of refuse shall be continuously supervised so that the face of the working fill is kept as narrow as is consistent with the proper operation of trucks and equipment and the minimum exposure of waste material during the operating day.
3. Blowing paper. Blowing paper shall be controlled by providing a portable fence near the working area. The entire area shall be policed regularly.
4. Spreading and compacting of refuse. Refuse can be spread and compacted in shallow layers not exceeding a depth of two feet of compacted material.
5. Depth of lifts and fill. Individual lifts in sanitary landfills shall be no greater than eight (8) feet in depth.
6. Daily cover. A compacted layer of at least six (6) inches of suitable cover material shall be placed on all exposed refuse by the end of each working day.
7. Large items. Special provisions shall be made for the disposal of large, heavy, or bulky items at small landfills or at landfills operated with light equipment.
8. Final cover. A layer of suitable cover material compacted to a minimum thickness of two (2) feet shall be placed over the entire surface of each portion of the final lift not later than one week following the placement of refuse within the portion.
9. Salvage. When salvaging is permitted, it shall be so organized it will not interfere with prompt sanitary disposal of refuse or create health hazards or unsightliness. Scavenging shall not be permitted.
10. Vector Control. Conditions unfavorable for the production of insects and rodents shall be maintained by carrying out routine landfill operations promptly in a systematic manner. Supplemental vector control measures shall be instituted whenever necessary.
11. Dust control. Suitable control measures shall be taken wherever dust is a problem.

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12. Drainage of surface water. The entire site, including the fill surface, shall be graded and provided with drainage facilities to minimize runoff onto and into the fill, to prevent erosion or washing of the fill, to drain off rain water falling on the fill, and to prevent the collection of standing water.
13. Completion of landfill. An inspection of the entire site shall be made by representative of the State Board of Health before the earth moving equipment is removed from the site. Any necessary corrective work shall be performed before the landfill project is accepted as completed. Arrangements shall be made for repair of all cracked, eroded, and uneven areas in the final cover during the year following completion of the fill.
14. Animal feeding. Domestic animals shall be excluded from the site.
15. Accident prevention and safety. Employees shall be instructed in the principles of first aid and safety and in the specific operational procedures necessary to prevent accidents, including limitation of access. An adequate stock of first aid supplies shall be maintained at the site.

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